Classification of cities of Isfahan province in view point of tourism infrastructure by using TOPSIS and AHP models

A. Shamai. J.Mosivand

Extended abstract
1- Introduction

The hierarchical tourism areas, in fact, are criteria for determining the centralization and adjusting the in equality between different regions. Little has been published, up to 1990s, in terms of doing hierarchy of tourism areas. But during last decades, investigators have paid more attention to make areal, national, ultra national hierarchy of tourism industry.

Today, with advances in statistical and digital systems and by using different indices in various fields, geographical studies have facilitated the process of tourism areal hierarchy.

These studies help the most to arrange the hierarchy, providing a useful form to distribute tourists around the province as an appropriate service leading to desired function. The purpose of this research is to study the effective factors in tourist attraction, showing towns hierarchies of Isfahan based on tourism substructures, keeping balance among regions in order to attract tourist more. The effective factors including: hotel, motel, suburban unit, restaurant, tours travel agency, travel Service offices, transportation companies, art gallery and cultural exhibition, public parks, a number of public transports, special tourism areas, and capitalization opportunities, have been analyzed and declared to each town of Isfahan.

As was stated above, the purpose is to answer this question too:

How are the ranking and hierarchy of Isfahan towns in term of tourist?

Which towns of Isfahan can attract more tourists?

To what extent is there a harmony between substructures related to tourism and tourist satisfaction?

2- Theoretical Bases

Tourism studies present tow higher views:

- Gaining cultural experience: According to this view, the purpose of tourism marketing is to gain social and

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cultural experience. So, most of tourists in terms of cultural and social view attach great importance to the current substructures.

- Making economic profit: According to this view, tourism industry is an economic system, just like the other ones, managed to seek ways for making profit. In their point of view, tourism marketing is a basic economical activity and making profit provides the most important purpose in this way. Having area substructure or regional one is a matter of the greatest importance to make more profit.

Providing appropriate residences and suitable geographical locations (for tourists) will increasingly thrive tourism industry: Target (a thriving production investment and supplying tourism services) and origin (offering tourist demand). This article focused only on target and appropriate substructures for tourism attraction; although the main purpose is to make a hierarchy of tourist areas and demanding which area is a center of excellence.

Accordingly, in order to provide the best condition, the following factors need to be considered.

Tourism attractor or attraction such as natural and historical places.

Having appropriate substructures including the ways, water, power, phone, sewage system, and the recycling of rubbish or trash in best way.

Offering and supplying services related to tourists including residential place, hotels and various tourism agencies.

Good ads, introducing attractive place services.

A firm policy making with effective official systems.

3- Discussion

In this article, TOPSIS model is used for making a hierarchy of substructures related to tourism marketing based on need-report questionnaire. AHP approach is used as a final hierarchy. It is worthy of mention that factors applied to TOPSIS have model facilities including residential place such as hotel, suburban unit, tour travel agency, travel Service offices, Transportation companies, art gallery and cultural exhibition, public parks, a number of public transports, special tourism areas and capitalization opportunities. Table 1 shows the final criteria of AHP model.

Table 1- characteristics of Isfahan town for computing at AHP model

Substructure score based on TOPSIS model	Cultural and historical attractions	National and ultra national tourism attraction	The number of natural attractor	Tourist satisfaction to quality and quantity	The number of tourists	Towns
40158.83	22	1	21	A	165162	Isfahan
4.337007	14	2	16	B	550	Arano idgol
11.69105	16	1	14	A	4090	Ardestan
8.079748	7	0	10	C	3957	Khomainy Shahr
1.855998	14	1	11	E	800	Khansar
2.122958	3	3	24	D	8823	Semirom
940.4607	8	0	0	A	5468	Shahin shahr
22.61125	12	0	11	B	30961	Shahreza
229.9641	15	1	21	A	4094	Kashan
5.261282	7	1	7	B	2000	golpayegan
4.150285	11	0	3	D	20673	Naein
1.258400	10	1	27	E	7500	Natanz

It is note worthy that the Expert Choice 2000 software with less than 0/02 percent error has been used as a tool for computing.

In the next stage we see another main process related to AHP model which explains paired comparison of criteria to each other and determines importance coefficient of them. To illustrate table, it must be mentioned that tourists points of view to ward quality and quantity of substructures play a more important role than the others. Because they are the main users of tourism substructures, their idea, first of all, must be considered. So, the most attention has been paid to these criteria, considered as a most important on equivalent 0/515 of 1.

Table 2- Final result in paired comparison criterions

	Substructure score based on TOPSIS model	Cultural and historical attractions	National and ultra national tourism attraction	The number of natural attractor	Tourist satisfaction to quality and quantity	The number of tourists
Final result	0.124	0.052	0.066	0.087	0.481	0.190

The final results are shown a table (3). Accordingly, the final result is easily achieved by multiplying the weight of each town in its bench mark.

Ranking is in this way:
First rank: Isfahan
Second rank: Kashan
Third rank: Shahin shahr

Table 3- Final result in paired comoarison criterions

towns	The number of tourists	Tourist satisfaction to quality and quantity	The number of natural attractor	National and ultra national tourism attraction	Cultural and historical attractions	Substructure score based on TOPSIS model	Final result	Final rank
Isfahan	0.03325	0.074074	0.007917	0.004092	0.058426	0.032488	0.210247	1
Kashan	0.00798	0.073112	0.011223	0.004686	0.021516	0.020212	0.138729	2
Shahin shahr	0.00969	0.069745	0.00087	0.001848	0.009657	0.032364	0.124174	3
Ardestan	0.00969	0.063011	0.005394	0.004686	0.008479	0.007564	0.098824	4
Shahreza	0.0323	0.040885	0.002349	0.00165	0.006688	0.010912	0.094784	5
Semirom	0.01653	0.022607	0.014268	0.018612	0.000195	0.00186	0.074072	6
golpayegan	0.01691	0.039442	0.003045	0.004686	0.000696	0.003596	0.068375	7
Naein	0.03496	0.012025	0.004524	0.001518	0.00144	0.002976	0.057443	8
Khomainy Shahr	0.00855	0.03367	0.004176	0.001518	0.001025	0.005084	0.054023	9
Natanz	0.0152	0.011063	0.019227	0.004554	0.0008	0.001984	0.052828	10
Arano idgol	0.00247	0.018278	0.00957	0.013794	0.002856	0.003472	0.05044	11
Khansar	0.00228	0.023569	0.004524	0.004422	0.001243	0.001364	0.037402	12

3-1- Answers to Questions

- How are the hierarchy and ranking of towns of Isfahan related to town tourist?

According to the obtained results Isfahan, Kashan, Shahin Shahr, Ardestan and Shahr Reza are in the order of first to five respectively.

- Which one of Isfahan towns can attract more tourists?

Kashan is in the first rank. It contains 4009 tourist. According to its substructures which are placed in second order after Isfahan, it totally has 37

tourism attractions. Its tourists satisfaction score is A. So, Kashan has high ability and capacity to attract tourist.

The second priority is given to Golpaygan which contains 2000 tourist. According to its substructures, it totally has 15 tourism attractions and its tourist satisfaction score is B. Therefore, Golpaygan has high capacity to attract tourist. The third priority is given to Arano Bidgol. This town contains 550 tourists. According to it their substructures, it totally has 32 tourism

attractions. B score has been allotted to it in terms of tourist satisfaction; consequently, it has high capacity to attract tourists.

- To what extent is there a harmony between tourism substructure and tourist Satisfaction?

The results show that there isn't any accordance or harmony between the number of tourism substructures and tourist satisfaction. In means that having large number of tourism substructures are not enough for attracting tourist, but what seems be important is the quality and servicing offer to tourists as the first priorities. Also, there is a positive correlation between substructures of each town in Isfahan equivalent to 98 percent.

4- Conclusion

Though tourism marketing is a hardworking one that leads to effective results and evolutions in areas, it has lately attached more attention not only in ultra national levels, but also in national, regional and local. Many tourism stake holders, authorities, planners and managers seeking to make the highest improvement in tourism industry in order to increase the value added perfectly. It may be necessary to pay more attention to tourism substructures as a considerable policy in this way.

First, each of towns was separately given priority, by identifying tourism substructures based on TOPSIS model. In fact, in the first stage, the emphasis was only on substructure role in order to attract tourists. So cities like Isfahan, Shahin Shahr and Kashan were given first priorities. What gives Isfahan higher and better level than others in terms of substructure is it width and being the center of province, of course. Therefore, AHP model is used to omit index errors. It's to pay more attention to the number

of attractions in each town, the quality and quantity of substructures based on tourist points of view and the number of tourists in each town, in addition to substructure criteria.

Tourist satisfaction parameter, which is gathered randomly in each town, is more important than other ones, in a case of related substructures, since tourists are the final consumer of production and services, and host city is responsible for supplying their requirements.

At last, by considering the whole criteria and paired comparison between towns in Isfahan based on AHP model, the final ranking is in this way: Isfahan is in the first place, Kashan in the second place, and Khansar in the last place. It is not worthy that in this article, AHP and TOPSIS models have been combined compensate the weak points of each other.

Finally, it can be said that towns like Khansar in spite their potential abilities to attract tourists are placed in the last rank because of their weak substructures.

5- Suggestions

Tourism should be developed as a national policy and strategy:
Encouraging people to travel around the country by providing appropriate advertisings, facilities and fund generated by related tourism organizations which lead to the development of tourism industry in Iran in which Isfahan won't be deprived of it

Distribution of equal tourism infrastructure in different cities of Isfahan province as well as making a regional balance in this regard

Improving the quality of the existing infrastructure to reach tourist satisfaction as well as to attract more tourists

Paying more attention to the tourists opinion in tourism infrastructure development as the ultimate consumers

Paying more attention to the cities that have lower infrastructure and providing schedule for their development.

Key words: Classification, urban tourism, TOPSIS, AHP, Isfaha

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